

Although it is not clearly demonstrated how the species arrived in this country, nor how most of the stations have originated, it is obvious that already the plant has thoroughly established itself, not only on the borders of cultivated fields and areas adjacent thereto, but along roadsides, in uncultivated lands, and waste places.* The long horizontal roots, perennial and often deep seated, suggest the possibility that in this plant we may well find a rival to the Canada Thistle in persistence.

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ADDITIONS TO THE FLORA OF WESTERN OREGON DURING 1921.

BY JAMES C. NELSON

A few more species remain to be added to the flora of the Willamette Valley as the result of the past season's collecting. Our list of local species appears to approach completion very much as certain geometric curves approach a straight line—always coming nearer, but never reaching absolute contact this side of infinity. Let it be again remarked, as in previous lists, that all of these species were growing without cultivation, and seem in all cases to be permanent members of our flora.

The total number of Oregon species that have been reported as not mentioned in Piper and Beattie's Flora of the Northwest Coast has now reached 371. Adding these to the 1617 species of that manual, we are now within 12 species of the 2000 predicted earlier in this series. Another season should complete this total.

Introduced species are marked*.

1. *Equisetum hyemale* L. var. *californicum* Milde. Not infrequent along streams in sandy woods. Determined by W. R. Maxon.

2. *Equisetum palustre* L. Very common in the low ground north of Chemawa, Marion Co., but rarely fruiting. This was

* The recent report by O. A. Stevens in the *Bulletin of the Torrey Botanical Club* for April 1922 of its frequency in the Red River Valley of North Dakota, Minnesota, and adjoining Canada is indicative of its already wide dispersal in America.

at first taken for *E. litorale* Kiihl., but was determined by W. R. Maxon.†

3. *Selaginella Wallacei* Hieron. On dry rocky cliffs on Spencer's Butte, Lane Co., and at Oswego Lake in Clackamas Co. Determined by W. R. Maxon. This is doubtless the "*S. rupestris* (L.) Spring." of the Flora of the Northwest Coast—a species which does not occur in our range.

4. *Isoetes Howellii* Engelm. A large colony on the bottom of a pond along the Southern Pacific tracks three miles south-east of Salem. Determined by Norma E. Pfeiffer.

5. *Echinochloa muricata* (Michx.) Fernald var. *occidentalis* Wiegand. On the sandy shore of the Columbia River on Hayden Island, opposite Vancouver, Wash. Determined by K. M. Wiegand.

6. *Notholcus mollis* (L.) Hitchc. On a rubbish-heap in the rear of a saw-mill on the bank of the North Santiam River at Stayton, Marion Co. Recently reported from California. Determined by Agnes Chase.

7. *Carex Tracyi* Mackenzie. Not infrequent in low meadows about Salem. This is the "*C. leporina* L." of the Fl. N. W. Coast. Determined by K. K. Mackenzie.

8. *Acorus Calamus* L. A large clump is established on a gravel-bar in Mill Creek at Salem. Not observed in cultivation.

9. *Brodiaea uniflora* (Graham) Baker. Common in cultivation, and escaping to lawns in some places in Salem. The bulbs have a distinct alliaceous odor!

10. *Muscari comosum* (L.) Mill. Well established in a grain-field $2\frac{1}{2}$ miles north of Waconda, Marion Co. Nowhere in cultivation.††

11. *Allium neopolitanum* Cyrill. Along the outside of the fence surrounding the city cemetery, Salem. Perhaps originally introduced with cut flowers at funerals. Determined by Bayard Long.

12. *Beta vulgaris* L. Not infrequent in waste places about Salem.

13. *Papaver somniferum* L. Common in cultivation, and occasionally escaping to rubbish-heaps and vacant lots, but less common than *P. Rhoeas* L.

† Cp. Maxon in Am. Fern Journal 11: 107, 1921.

†† See RHODORA 24: 208-210, 1922.

14. **Malcomia maritima* (L.) R. Br. A few specimens were brought in by a high-school pupil, who reported them as growing in a fallow field in the north part of Salem, but the station has not since been found. Determined by Bayard Long.

15. **Rosa multiflora* Thunb. On rubbish heaps and roadsides near Salem. Determined by P. A. Rydberg.

16. **Spartium junceum* L. Occasional in cultivation, and established in a pasture in Salem. Determined by C. A. Weatherby.

17. **Medicago arabica* Huds. Fully established in a pasture along the Pacific Highway, three miles north of Salem.

18. **Medicago sylvestris* Fries. A few plants have persisted in a yard on Front St., Salem. Determined by C. A. Weatherby.

19. *Lupinus lignipes* Heller. In gravelly soil along the railroad tracks at West Salem, Polk Co. Has probably been confused with *L. columbianus* Heller. Determined by C. P. Smith.

20. **Geranium columbinum* L. In a potato-field surrounded by woods, one-half mile east of Kingston, Linn Co.

21. **Oxalis violacea* L. In a vegetable-garden along the railroad-track near the State Prison, Salem.

22. *Euphorbia crenulata* Engelm. Occasional in rocky woods throughout the Willamette Valley. Both this species and *E. dictyosperma* Fisch. & Mey. are abundant on a wooded hill at Eola, Polk Co.

23. **Hypericum calycinum* L. This handsome shrubby species occasionally escapes to roadsides about Salem. Determined by C. A. Weatherby.

24. *Centunculus minimus* L. In a dry ditch by the roadside 3 miles southeast of Salem. Determined by M. E. Peck.

25. **Anchusa italica* Retz. Very common in cultivation, and escaping to a thicket along a stream at Salem. Determined by John M. Fogg Jr.

26. *Pentstemon aggregatus* Pennell. In low ground at the foot of a railroad embankment near Cook Station, Clackamas Co. A species of the Rocky Mountain region, that does not appear to have been previously reported in the Northwest. Perhaps confused with *P. ovatus* Dougl. Determined by F. W. Pennell.

27. **Valeriana officinalis* L. Frequently cultivated, and spreading to roadsides near the city cemetery, Salem.

28. **Helianthus scaberrimus* Ell. A species of the Middle West that is common in gardens, and freely escaping to waste grounds and fields.

I am under obligation to all the botanists mentioned above for their kindness in determining difficult specimens. A few further notes may be added by way of correction and extension of previous lists:

1. *Lolium perenne* L. var. *cristatum* Doell, which has rested on a single specimen from Eola, Polk Co., has appeared in waste ground in many places about Salem.

2. *Carex Hallii* Bailey is now referred by Mackenzie to *C. nudata* W. Boott (*Erythea* 8: 80. 1922).

3. *Carex specifica* Bailey var. *brevifructus* Kük. is referred by the same authority to the new species *C. fracta* Mackenzie (*l. c.* 8: 38).

4. *Carex olympica* Mackenzie is now referred by the author to *C. pachystachya* Cham. (*l. c.* 8: 45).

5. *Sisymbrium Sophia* L. is now common about the railroad cattle-pens at Salem.

6. *Lobularia maritima* (L.) Desv. is not infrequent on rubbish-heaps and street-parking about Salem.

7. *Galium tricornis* Stokes is abundant in grain-fields at Eola, Polk Co.

8. The "*Erigeron corymbosus* Nutt." of the list in *Torreyia* 18: 30. 1918 (no. 135) is according to H. M. Hall *E. decumbens* Nutt.

9. *Peltiphyllum peltatum* (Torr.) Engler, which was reported in *Torreyia* 18: 223. 1918 as "observed from car-window" along Mary's River in Benton Co., was confirmed this spring by a student who brought in a specimen from the same locality.

10. "*Potentilla canadensis* L.," No. 30 of the list in *Torreyia* 18: 224, is determined by Bayard Long as a double-flowered form of *P. procumbens* Sibth., with five leaflets instead of three (perhaps the forma *pentamera* Rydb.)

11. "*Convolvulus polymorphus* Greene." Further study and comparison with authentic specimens seem to place this nearer *C. occidentalis* Gray.

12. The "*Cryptantha Torreyana* (Gray) Greene var. *grandiflora* (Rydb.) Nels. & Macbr." (*Torreyia* 18: 225), and the "*C. Hendersonii* (Nels.) Piper" (no. 67, *Torreyia* 20: 40. 1920)

seem to be the same thing, but further study is urgently needed.

13. "*Allocarya californica* Greene" (no. 47. *Torreyia* 18: 225) has been described as a new species by Piper in his recent revision of the genus (*A. granulata* Piper).† The type-locality is at Salem.

14. "*Azolla caroliniana* Willd." (no. 1 of the list in *Torreyia* 20: 40. 1920) is determined by W. R. Maxon as *A. filiculoides* Lam. It is abundant in stagnant water on the shore of the Willamette at Salem.

15. *Xanthium oviforme* Wallr. This is not a "species of the Orient," but is indigenous to the Columbia Valley, where it was discovered by Douglas.

Perhaps the most interesting range-extension of the past season was afforded by the discovery of *Danthonia pinetorum* Piper (*D. thermalis* Scribn.) on the top of a rocky cliff on the south side of Oswego Lake in Clackamas Co. The type-locality is in Mason Co. Wash., and the species seems not to have been previously reported from south of the Columbia River.

Bromus sitchensis Bong., which Piper and Beattie (Fl. N. W. Coast 51) assign to "moist banks along the sea-shore," was found along the dry border of a hop-yard in the Willamette River bottom near Livesley Station, Marion Co., and determined by Agnes Chase, as was the *Danthonia* also.

Senecio Harfordii Greenm., which has been regarded as endemic in the Columbia Gorge, has been found as far south as in the Cascades as Silver Creek Falls in Marion Co., and was observed in abundance on Bowman Butte in Clackamas Co., about 15 miles northwest of Mt. Hood.

Salem, Oregon.

THE RECORDS FOR LIMNOBIUM SPONGIA IN THE NORTHERN UNITED STATES

BY KENNETH K. MACKENZIE

One of the most interesting and at the same time troublesome records for New Jersey is Knieskern's of the rare occurrence of *Limnobium Spongia* at Swimming River, Monmouth County. Nothing has turned up from any part of New Jersey since the

† Contr. U. S. Nat. Herb. 22, Part 2; 109. 1920.